

multiple functions at the same time by one airman.

(c) The minimum pilot crew is two pilots and the certificate holder shall designate one pilot as pilot in command and the other second in command.

(d) On each flight requiring a flight engineer at least one flight crewmember, other than the flight engineer, must be qualified to provide emergency performance of the flight engineer's functions for the safe completion of the flight if the flight engineer becomes ill or is otherwise incapacitated. A pilot need not hold a flight engineer's certificate to perform the flight engineer's functions in such a situation.

[Doc. No. 6258, 29 FR 19212, Dec. 31, 1964, as amended by Amdt. 121-178, 47 FR 13316, Mar. 29, 1982; Amdt. 121-256, 61 FR 30434, June 14, 1996]

#### § 121.387 Flight engineer.

No certificate holder may operate an airplane for which a type certificate was issued before January 2, 1964, having a maximum certificated takeoff weight of more than 80,000 pounds without a flight crewmember holding a current flight engineer certificate. For each airplane type certificated after January 1, 1964, the requirement for a flight engineer is determined under the type certification requirements of § 25.1523.

[Doc. No. 5025, 30 FR 6067, Apr. 29, 1965]

#### § 121.389 Flight navigator and specialized navigation equipment.

(a) No certificate holder may operate an airplane outside the 48 contiguous States and the District of Columbia, when its position cannot be reliably fixed for a period of more than 1 hour, without—

- (1) A flight crewmember who holds a current flight navigator certificate; or
- (2) Specialized means of navigation approved in accordance with § 121.355 which enables a reliable determination to be made of the position of the airplane by each pilot seated at his duty station.

(b) Notwithstanding paragraph (a) of this section, the Administrator may also require a flight navigator or special navigation equipment, or both,

when specialized means of navigation are necessary for 1 hour or less. In making this determination, the Administrator considers—

- (1) The speed of the airplane;
- (2) Normal weather conditions en route;
- (3) Extent of air traffic control;
- (4) Traffic congestion;
- (5) Area of navigational radio coverage at destination;
- (6) Fuel requirements;
- (7) Fuel available for return to point of departure or alternates;
- (8) Predication of flight upon operation beyond the point of no return; and
- (9) Any other factors he determines are relevant in the interest of safety.

(c) Operations where a flight navigator or special navigation equipment, or both, are required are specified in the operations specifications of the air carrier or commercial operator.

[Doc. No. 10204, 37 FR 6464, Mar. 30, 1972, as amended by Amdt. 121-178, 47 FR 13316, Mar. 29, 1982]

#### § 121.391 Flight attendants.

(a) Except as specified in § 121.393 and § 121.394, each certificate holder must provide at least the following flight attendants on board each passenger-carrying airplane when passengers are on board:

(1) For airplanes having a maximum payload capacity of more than 7,500 pounds and having a seating capacity of more than 9 but less than 51 passengers—one flight attendant.

(2) For airplanes having a maximum payload capacity of 7,500 pounds or less and having a seating capacity of more than 19 but less than 51 passengers—one flight attendant.

(3) For airplanes having a seating capacity of more than 50 but less than 101 passengers—two flight attendants.

(4) For airplanes having a seating capacity of more than 100 passengers—two flight attendants plus one additional flight attendant for each unit (or part of a unit) of 50 passenger seats above a seating capacity of 100 passengers.

(b) If, in conducting the emergency evacuation demonstration required under § 121.291 (a) or (b), the certificate holder used more flight attendants